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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,477

12/21/2005

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EXAMINER

MCCAIG, BRIAN A

ART UNIT

PAPER NUMBER

1797

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,477	<b>Applicant(s)</b> DIERICKX ET AL.	
	<b>Examiner</b> BRIAN MCCAIG	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 1 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>December 21, 2005</u> .                                       | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Summary***

1. This is the initial Office action based on the 10/561477 application filed December 21, 2005.
2. Claims 1-12 are pending and have been fully considered.

### ***Specification***

3. The disclosure is objected to because of the following informalities:
  - a. Page 2, paragraph 2: "Applicants have found that. . ." appear to be an incomplete sentence,
  - b. "Raffinate" is capitalized throughout the application when it should not,
  - c. Page 3, paragraph 3 "suitable" should be "suitably," and
  - d. Page 6, paragraph 4: "The waxy Raffinate product. . ." needs to be grammatically corrected.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102/35 USC § 103***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1-5 and 9-11 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over HOEK (WO 2004/009739 A2) as evidenced by DRY in *Fischer-Tropsch Technology* (2004, *Studies in Surface Science and Catalysis*, vol 152, pgs 196-257).**

7. With respect to claims 1 and 2, HOEK discloses a process to prepare a waxy raffinate product wherein the process comprises the following steps:

- a. subjecting a Fischer-Tropsch derived product to a hydroconversion step and
- b. fractionating the effluent of step (a) to obtain products boiling in the fuels range and a waxy raffinate product boiling between 350 and 600 °C [page 2, line 23 to page 3, line 2].

8. HOEK does not explicitly disclose that the Fischer-Tropsch (F-T) derived product has a weight ratio of compounds boiling above 540°C and compounds boiling between 370 and 540 °C of greater than 2 and, more particularly, greater than 2.5. However, such a ratio is inherent in the process, or, alternatively, well known to one of ordinary skill in the art as evidenced by DRY who discloses that, as the selectivity of hard wax (a hydrocarbon fraction boiling above 540° C) increases, the selectivity of other fractions decreases and, furthermore, when the selectivity of a hard wax is 50, the selectivity of fractions boiling between 370 to approximately 500° C is 15. Therefore, it is expected that the weight ratio of compounds boiling above 540°C and compounds boiling between 370 and 540 °C is within the claimed range. Furthermore, HOEK uses the same F-T feed as the applicant discloses can be used in the claimed process.

9. With respect to claims 3-5 and 9-11, HOEK does not appear to explicitly disclose that the 10% recovery weight temperature of the F-T derived product is below 400° C, the F-T derived product in step (a) is prepared by separating from a F-T synthesis product part or all of the paraffin fraction boiling between 370 and 540 °C, or that the

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F-T derived product in step (a) is prepared by adding a F-T derived fraction comprising compounds boiling above 540 °C to a F-T synthesis product. However, as previously discussed, HOEK teaches that the same F-T feed can be used in the disclosed process, which is the same feed that the applicant discloses can be used in the claimed process. Therefore, the process as required in the instant application is inherent in the process of HOEK.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. **Claims 6, 8, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over HOEK (WO 2004/009739 A2) as evidenced by ADAMS ET AL (WO 2004/007647 A1), hereafter referred to as HOEK and ADAMS, respectively.**

11. With respect to claim 6, HOEK discloses subjecting part of the F-T synthesis product to a hydrogenation step to remove oxygenates and olefins from the Fischer-Tropsch product [page 5, lines 10-14] and isolating from the hydrogenated F-T product a microcrystalline wax having a congealing point between 85 to 120° C [page 7, line 13 to page 8, line 18].

12. Reference is made to the preceding discussion of the feed of HOEK and its congruence with the feed as disclosed in the instant application. In addition, HOEK does not appear to explicitly disclose isolating from the hydrogenated F-T product two or more wax grades in which at least one has a congealing point between 30 and 80° C and at least one heavy grade has a congealing point above 90° C or mixing part or all of the heavy wax with another part of the F-T synthesis product to obtain the F-T product having a weight ratio of compounds boiling above 540 °C and compounds boiling between 370 and 540 °C of greater than 2 to be used in step (a) of the claimed

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process. However, isolating two wax grades from the hydrogenated F-T product, one with a congealing point between 30 and 80° C [page 14, Table 1] and one above 90° C [see page 17, Table 4] as evidenced by ADAMS [page 4, lines 9-26], who discloses a similar intermediate processes of separation and hydroconversion using a similar hydrogenated feed as taught by HOEK and disclosed in the instant application under the same hydrogenation conditions. Neither HOEK nor ADAMS explicitly discloses mixing part or all of the heavy wax with another part of the F-T synthesis product to obtain the F-T product. However, HOEK discloses that the feed to the hydroconversion step (a) is a relatively heavy F-T product with a ratio of C<sub>60</sub> to C<sub>30</sub> of, preferably, 0.55, which renders obvious the need to mix part or all of the heavy wax from the separation process inherent in HOEK and evidenced by ADAMS with another part of the F-T synthesis product to obtain the F-T product having a weight ratio of compounds boiling above 540 °C and compounds boiling between 370 and 540° C of greater than 2 as required in the instant application.

13. **Claims 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over HOEK (WO 2004/009739 A2) in view of MURPHY ET AL (WO 1999/41335), hereafter referred to as HOEK and MURPHY, respectively.**

14. Reference is made to the discussion of HOEK in the preceding paragraphs. HOEK does not appear to explicitly disclose subjecting the waxy raffinate to a dewaxing step.

15. However, MURPHY discloses a process similar to HOEK for using a F-T wax wherein the reference teaches subjecting the waxy raffinate to a dewaxing step [page 2 and page 9] after hydroconversion and separation steps using the same F-T feed [see page 4, lines 6-8] as HOEK and the instant application. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the process of HOEK to include the dewaxing step of MURPHY in order to prepare base oils of different grades with targeted pour points as disclosed by MURPHY [page 2, lines 21-33]. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

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***Conclusion***

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN MCCAIG whose telephone number is (571) 270-5548. The examiner can normally be reached on M-F 8-430.

17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BAM  
10/7/2008

/Glenn A Caldarola/  
Acting SPE of Art Unit 1797

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